Received: 11 February 2019 | Revised: 21 August 2019 | Accepted: 6 September 2019

DOI: 10.1111/mila.12303

SUBMITTED ARTICLE

WILEY

Language without information exchange

Jessica Keiser

School of Philosophy, Religion, and History of Science, University of Leeds, Leeds, UK

Correspondence
Jessica Keiser, University of Leeds, Woodhouse Lane, Leeds LS2 9JT, UK.
Email: j.keiser@leeds.ac.uk

This paper attempts to revive a once-lively program in the philosophy of language—that of reducing linguistic phenomena to facts about mental states and actions. I argue that recent skepticism toward this project is generated by features of traditional implementations of the project, rather than the project itself. A picture of language as essentially a mechanism for cooperative information exchange attracted theorists to metasemantic accounts grounding language use in illocutionary action (roughly, using an utterance to elicit a propositional attitude). When this picture is rejected, a metasemantics grounding language in locutionary action (using an utterance to direct attention) emerges as a more viable proposal, dissolving an intractable issue for traditional theories: the metasemantics of subsentential expressions.

KEYWORDS

convention, Grice, metasemantics, referential indeterminacy

1 | INTRODUCTION

In his seminal 1948 essay "Meaning," H. P. Grice launched a fruitful program that continues to shape theorizing about linguistic communication. Though it has many facets, we can characterize the overarching project as that of reducing linguistic phenomena to facts about mental states

and actions[1]; a project carried out in varying degrees by philosophers including David Lewis, Stephen Schiffer, Brian Loar, David Kaplan, and Robert Stalnaker.[2] Why does the Gricean program matter? Many theorists found it attractive insofar as it served a broader physicalist agenda; to reduce linguistic facts to facts about mental states, which would in turn be reduced to physical facts.[3] Regardless of the viability of this more ambitious project, however, we should surely seek a reductive account of linguistic phenomena; it would be surprising if linguistic facts were among the fundamental facts, whatever they turn out to be. But the Gricean program does not merely promise a reduction of linguistic phenomena; it offers a comprehensive theory of communication integrating issues in metasemantics, metaphysics, semantics, pragmatics, speech act theory, philosophy of mind, and evolutionary psychology into a unified whole. At a certain stage, local theories are vindicated by their role in a viable broader theory. The Gricean framework lends independent support to its component parts insofar as they contribute to a systematic and comprehensive theory of communication.

Recent years, however, have seen a growing attitude of skepticism regarding the viability of this project. I argue below that this skepticism is misplaced—that certain problems are generated by features of traditional implementations of the project rather than the project itself. There are many components to the Gricean program, but here I focus on its application to the domain of metasemantics; specifying—in terms of mental states and actions—the relation that holds between a population P and a language L such that L is the language of P. I offer a novel proposal: Populations speak the languages they do in virtue of conventions of *locutionary action* (using an utterance to direct *attention*). This proposal departs from the traditional conception of language as grounded in *illocutionary action* (using an utterance to elicit a propositional attitude.)[4] A picture of language as essentially a mechanism for cooperative information exchange attracted traditional theorists to an illocution-based metasemantics.[5] I demonstrate that when this picture is rejected, a locution-based metasemantics emerges as a more viable alternative, accommodating issues concerning the metasemantics of substentential expressions that were problematic for traditional accounts.

Here is the roadmap: Section 2 outlines my metasemantic proposal, emphasizing its departure from the traditional conception of language as cooperative information exchange. Section 3 demonstrates its advantages with respect to the metasemantics of subsentential expressions. Section 4 anticipates worries for the account.

2 | LANGUAGE WITHOUT INFORMATION EXCHANGE

What relation must hold between them such that a language L belongs to a population P? David Lewis's influential proposal is that languages are linked to communities through *conventions of*

[1]However, see Avramides (1989) for a characterization according to which Grice was not aiming at reduction. I do not aim to provide exegesis of Grice, but to revive a program that is (accurately or not) associated with him. See also Neale (1992) for an excellent overview of Grice's project, and Levinson (2000), Saul (2002), Horn (2009), Petrus (2010), and Bach (2011) for discussion of various aspects of Grice's life and work.

[2]See Grice (1989), Kaplan (1990), Kaplan (2011), Lewis (1969), Loar (1981), Schiffer (1972), and Stalnaker (2014).

[3]See Schiffer (1987) and Schiffer (1982) for discussion.

[4]I also consider refinements of this conception of illocutionary action designed to accommodate recent work in the semantics of questions and imperatives—where these contents are not modeled as propositions.

[5]Davis (2003) presents a notable departure from the traditional approach. Though the spirit of my account shares commonalities with Davis's, there are substantial differences in their motivations and technical implementations; I discuss these in Sections 2 and 3.

use.[6] I take this much on board, but depart from Lewis and others working within a Gricean framework in what I take to be the relevant convention—a departure prompted by a different understanding of the function of language.[7] The prevailing assumption is that language essentially facilitates exchange of information between cooperative agents.[8] Lewis, for instance, requires that language users engage in conventions of truthfulness and trust, coordinating assertion with belief given a shared interest in acquiring information. Similarly, Stalnaker's framework of context and common ground models language as a mechanism for updating the context—a cooperative project of learning about the world and realizing shared goals.[9] Grice's picture of pragmatic reasoning also emphasizes the role of cooperation, assuming that interlocutors can be expected to adhere to a set of conversational maxims. This idealization remains pervasive. It is reflected, for instance, in standard accounts of assertoric normativity, lending support to the claim that the epistemic norm of assertion is knowledge or truth.[10] It is seen in the use of Stalnaker's framework to explain presupposition accommodation and model linguistic meaning and discourse.[11]That communication involves cooperative information exchange is standardly assumed in pragmatic theories of utterance interpretation.[12]

Focusing uniquely on language's role in information exchange leads to privileging *illocutionary action* at the metasemantic level. *Illocutionary act* is a term of art introduced by Austin (1962) and subsequently employed in a variety of ways. For now, I use it to refer to speech acts involving an intention to elicit a propositional attitude, though I explore refinements to this conception.[13] Assertion is the paradigmatic case: In performing an assertion, a speaker typically intends not merely to direct her audience's attention to a content, but to elicit a more robust propositional attitude toward it, such as belief.[14] Here is a toy theory for illustration:

[6]See Lewis (1969) and Lewis (1975). Note that this schema does not presuppose that each linguistic population uses a unique language; it is compatible with, for example, a supervaluationist picture of semantic indecision, which Lewis accepted.

[7]Rather than convention, Grice appealed to a procedure in the repertoires of language users; however, the discussion here will apply to any use-based metasemantic account, regardless of whether it employs the notion of convention. See Grice (1989, pp. 123–127).

[8]See Stanley and Beaver (n.d.), and Asher and Lascarides (2013) for extensive discussion and criticism of this idealization.

[9]This idealization is made explicit in Stalnaker's statement that "for communication (trying to get people to believe things by meaning them) to be possible, there must be a recognized common interest in sharing certain information" (Stalnaker, 2014, p. 42).

[10]See, for example, DeRose (2002), Reynolds (2002), Adler (2002, p. 275), Hawthorne (2004), Stanley (2005), Weiner (2005), Engel (2008), Schaffer (2008), and Turri (2010).

[11]I have in mind theories of presupposition, dynamic semantic, and formal pragmatic theories that have developed from the work of Stalnaker (1970a), Stalnaker (1970b), Stalnaker (1973), Stalnaker (1974), Stalnaker (1978), Kamp et al. (1981), Heim (1983), and Greonendijk and Stokhof (1991). Roberts (2012), for example, introduces a formal model of conversational discourse with "following Stalnaker (1978), I assume that the primary goal of discourse is communal inquiry—the attempt to discover and share... information about our world" (p. 64).

[12]Explanations of utterance interpretation typically assume that interlocutors share common interests/are guided by conversational norms of cooperativity. See Huang (2016) for a recent overview of the literature.

[13]This characterization conveniently delineates a category of speech acts privileged in traditional metasemantic accounts, setting up a clear contrast with my own proposal. For alternative conceptions of illocutionary action see, for example, Maitra (2009), Hornsby (1994), and Hornsby and Langton (1998).

[14]Many accounts of assertion are significantly weaker; for instance, Stalnaker (1974) suggests that the relevant response is not belief, but acceptance for the sake of conversation. For Bach and Harnish (1979), the asserter merely intends to provide the audience *reason* to form a belief. These details need not concern us here—what is relevant is that the response is typically taken to be (or crucially involve) some sort of propositional attitude.

Illocution

By uttering *e*, U illocutes *p* iff for some audience A, U utters *e* intending that A believes *p*.

A toy illocution-based *metasemantics* might claim that a population speaks a language L in virtue of participation in a convention of illocutionary action in L (uttering an expression *e* of a language L to illocute the content assigned to it by L). The conception of language as a mechanism for information exchange naturally leads to an illocution-based metasemantics because we typically exchange information by eliciting propositional attitudes such as beliefs. In order to understand what grounds linguistic meaning, it is sensible to begin by thinking about what we use language *for*, and then to articulate which kinds of speech acts facilitate that. If the starting assumption is that language is used for cooperative information exchange, then it is natural to pursue a metasemantics grounding it in illocutionary action.

Of course, we often exchange information and realize shared goals in conversation by asking questions and issuing commands in addition to performing assertions. Realizing this, theorists traditionally employed more complex conceptions of illocutionary action than the toy account presented above so as to accommodate a broader range of speech act types.[15] The typical strategy, however, remained focused on propositions and propositional attitudes. For instance, a command could be modeled by appeal to the speaker's intentions to get an audience A to believe a modal proposition about what A ought to do and a query could be modeled as a command to evaluate the truth of a proposition (and its relevant alternatives).[16] Though recent work in the semantics of clause types suggests that imperatives and interrogatives may be better modeled non-propositionally by, for example, sets of propositions and properties, an account of illocutionary action could be revised to accommodate these distinctions.[17]

But even if a theory of illocutionary action could support a three-way distinction between assertions, queries, and commands, this would be insufficiently broad to characterize language use outside information exchange information and certain kinds of coordinated activity. While language *may* be used in a joint endeavor to learn about the world, it also serves as tool for manipulation, social bonding, entertainment, harm, aesthetic reverie, formal proof, and ritual ceremony. Different speech acts facilitate different communicative goals; while illocutionary action may be particularly suited to information exchange, it is not relevant to all manner of linguistic communication.[18] Illocution-based metasemantics either require an extremely complex disjunctive analysis of illocutionary action or a principled reason for privileging a subset of speech acts as meaning-determining.[19]

Wayne Davis—who rejects the traditional illocution-based approach—makes a similar point in noting its overemphasis on speech acts aimed at belief production at the expense of the exceptions which "are many and various, and occur in the most familiar of cases" (Davis, 2003, p. 251). Though our departure from Gricean orthodoxy is motivated by similar cases, we offer different diagnoses of the problem: For Davis, "the principle error" of the Gricean project is its

[15]See Grice (1989), Lewis (1969), Lewis (1975), Loar (1981), and Schiffer (1982).

[16]See Lewis (1969) and Schiffer (1982, pp. 95–110); compare Kaufman (formerly Schwager, 2005), and von Stechow (1991).

[17]See Portner (2004) and Roberts (2018).

[18]Moreover, non-ideal contexts can be particularly instructive for gaining a deeper understanding of the phenomenon under consideration. See, for instance, Camp (2018) on how insinuation can shed light on the mechanism of speaker meaning and the structure of common ground.

[19]Schiffer (1987) doubted that such an analysis could be given, claiming that "it seems clear ... that there is no hope of achieving a neat set of conditions that will accommodate all cases that we should intuitively classify as acts of speaker-meaning" (p. 247).

focus on audience-directed intentions, while I claim that the problem stems from its focus on the *wrong kind* of audience-directed intentions. Thus, my account continues with a tradition that Davis rejects, according to which linguistic meaning is grounded in social behavior. (I contrast our positive proposals below.)

I propose that there is a more basic type of speech act which serves as a common denominator between diverse forms of linguistic communication, and is thereby better suited than illocutionary action to undergird a metasemantic theory: This is (*speaker) meaning*, defined below.[20] In what follows, I broadly outline and motivate the proposal; in the remaining sections, I show how it dissolves a technical problem faced by traditional accounts. Before presenting the details, here is the rough idea. The minimal requirement for successful communication is that the speaker directs her audience's attention to a particular content (more on *attention* below). Granted, as a contingent fact about social activity, she is only likely to do this in service of a *further* goal, which may involve eliciting a propositional attitude. For instance, a speaker may utter "North Korean archeologists have discovered an ancient unicorn lair" to garner a laugh, spark imagination, or induce a belief, among other things; but a prerequisite to achieving any of these goals is to direct the audience's attention to a particular content. If she succeeds, then she has communicated on some minimal level, regardless of the outcome of her further goal. Thus, while speaker meaning is not basic with respect to *goal-directed action*—in that, it characterizes a (normally) proximate, rather than ultimate, communicative goal—it is *metaphysically* basic in that achieving this proximate goal is a necessary condition for achieving the ultimate communicative goal, whatever that may be.[21]

But there is slightly more to the story: There is a particular mechanism by which this direction of attention is achieved, which helps distinguish the kind of communication undergirding language use (what Grice called *non-natural meaning*) from alternative ways of representing content (*natural meaning*). I follow Grice in identifying this mechanism as involving an intention on the part of the speaker to make her communicative intention transparent to her audience:

Meaning:

By uttering *e*, U means *m* iff for some audience A, U utters *e* intending that: A attend to *m* at least partially on the basis of her recognition of this intention[22] (where *m* ranges over contents of thought, whether they be propositions or some other type of entity).[23]

I propose that a population speaks a language L just in case its members participate in conventions of *direct* meaning—which I will call *locutionary action*—in L:

Indirect meaning:

By uttering *e* U indirectly means *m* iff for some audience A, there is some content *k* (distinct from *m*) such that

[20]There are plausibly even more basic speech acts, which may undergird protolanguage. See Bar-On (2013), Moore (2017a), Planer (2017), and Sterelny (2017).

[21]A referee notes that the audience may lack motivation to attend to this content unless she recognizes the ultimate communicative goal (and how she may benefit). This contingent dependence is compatible with the claim that locutionary action is doing the metasemantic grounding work. Moreover, motivational facts may explain apes' relatively poor performance in interpreting pointing gestures, though they possess the requisite cognitive skills (see Tomasello, 2006).

[22]This account is not meant to *function as* or *replace* an account of assertion or illocutionary action. My claim is simply that the latter does not belong at the metasemantic level of linguistic theory.

[23]My account is compatible with different theories of mental content. I only require that semantic contents are a subset of mental contents.

1 By uttering *e*, U means *k*.
2 By uttering *e*, U means *m*.
3 U utters *e* reflexively intending that A recognize (2) at least partially on the basis of (1).[24]

Direct meaning (locution):
Whatever is meant: If it is not meant indirectly, it is meant directly.

This directness condition serves to give the literal content of indirect speech a privileged role in determining the meaning of the public language, while allowing that the indirect content is nonetheless meant by the speaker.[25] The crucial point here, however, is that the kind of speech act grounding linguistic meaning on my proposal is considerably more liberal than that employed in traditional accounts, as a consequence of a different conception of the essential function of language—to get others to attend to contents, rather than to exchange information.

Let me say a bit about how I am thinking of attention. Though I take my account to be compatible with a range of theories, I adopt some relatively orthodox assumptions about its characteristic features and functional role: (a) Perhaps most controversially, I assume that attention is a mode of consciousness[26] (alternative views can be accommodated by a restriction to *conscious* attention); successful communication will involve a change in the conscious awareness of the audience. (b) Attention need not be perceptual, though perhaps early forms of communication in phylogeny and ontogeny involve directing the perceptual attention of the audience to an object in a shared visual field (more on this below).[27] (c) Attention is directed toward something, for example, a proposition, property, or object.[28] (d) Attention involves selection; it directs our awareness toward certain things at the expense of others.[29] On my proposal, the essential function of linguistic communication is to influence this selection process in others. (e) Attention often selects contents *for* something, such as to play a role in action or thought.[30] This coheres with the idea that locutionary action is a prerequisite for achieving a more robust communicative goal, like eliciting a propositional attitude. In order to achieve the latter, the speaker must first direct her audience's attention to a content, selecting it to play the role in action or thought relevant to that goal.[31]

The idea that there is an important link between attention and communication is not new. Campbell (2002) and Dickie (2011), building on ideas from Russell (1969), argue that attention explains our ability to use and interpret demonstrative expressions.[32] Tomasello (2006) has argued that joint attention plays a crucial role in early language development and early forms of

[24]Reflexive intentions are self-referential; part of the intention is that the audience recognize the full contents of that very intention. This notion was introduced by Harman (1974, p. 225) and used by Searle (1993), p. 47), and Bach and Harnish (1979, p. 15). Grice, in contrast, posited iterated intentions (and prohibited sneaky intentions) to do the same work: To characterize communicative intentions as open or manifest.

[25]This is a fairly standard move, designed to capture the role of literal content in communicating non-literal content, and the possibility of rampant non-literal speech.

[26]See Smithies (2011).

[27]Though contemporary discussion has largely focused on perceptual attention, there is a rich philosophical literature concerned with non-perceptual attention as it relates to epistemic and moral activity. See, for example, Descartes (1985), Locke (1979), James (1890), Weil (1986, p. 214), and Bommarito (2013).

[28]See Locke (1979), James (1890), Bradley (1902), Broadbent (1958), Campbell (2002), and Chalmers (2004).

[29]See James (1890), Broadbent (1958).

[30]See Allport (1987), Prinz (2011), Smithies (2011), and Wu (2011).

[31]Attending to a proposition *p* is different from attending to the question of *whether p* in that the latter involves a consideration of *not p* while the former need not.

[32]See Campbell (2002), Dickie (2011), and Russell (1969), p. 40).

communication. I propose that the role of attention in a theory of meaning is broader still; it is the mechanism by which conventional language is constructed and sustained. By weakening the central notion of meaning undergirding metasemantic theory, this proposal de-intellectualizes the kinds of goals and capacities required for language use and unifies a growing narrative about the role of attention in communication.[33] In the next section, I will show that it solves technical problems faced by alternative accounts and conclude by addressing potential objections.

3 | SUBSENTENTIAL CONSTITUENTS

This section shows my proposal to overcome a substantial problem for traditional theories by providing a uniform metasemantics for contentful expression types. Illocution-based approaches face difficulties accounting for word meanings because illocutionary action requires certain types of content—that is, propositions in the case of assertion[34]—which are suitable for modeling meanings of sentences but not subsentential expressions; consequently, they must provide a bifurcated, top-down metasemantics. But this is no trivial task, especially insofar as one is committed to providing a reductive and non-circular account.

I consider two strategies. The first, employed by Grice (1989) and Schiffer (1972), is to claim that illocutionary action determines sentence meanings directly and word meaning indirectly; sentence meaning is determined by illocutionary action, while word meaning is determined by actions (like reference or predication) *implicated* in illocutionary action. Grice merely outlines this strategy, lamenting that "the best we can hope for [in our present state of knowledge] is a sketch, for a very restricted (but central) range of word types and syntactical forms, of a fragment of what might be the kind of theory we need" (Grice, 1989, p. 131). His sketch uses the notion of *correlation*—a rough analogue of *speaker meaning* for words—however, he struggles to characterize this notion without tacitly presupposing conventional linguistic meaning. He concludes that the apparent circularity stems from "a mystery which, for the time being at least, we have to swallow, while recognizing that it involves us in an as yet unsolved problem" (Grice (1989, p. 131). After encountering similar difficulties, Schiffer (1987) is less sanguine:

> One needs only to try it for some very simple language to become convinced of the hopelessness of stating for each primitive vocabulary item and syntactical construction of the language a separate practice that will yield a finite set of practices that together will determine the meaning of each of the infinitely many sentences of the language. The difficulty will emerge in the need to refer without circularity to each of the other practices in stating the practice for any given word or construction. (Schiffer, 1987, p. 251).

Recently, however, Stephen Neale (2017)—working within a Gricean framework and modifying a proposal by Schiffer (1972)—provides a non-circular characterization of referring to be used as a basis for a definition of expression-reference:

[33]For instance, Brehany (2006) objects that linguistically competent children fail to have the concept of belief, which illocution-based accounts claim to be required for linguistic communication. However, other experimental evidence poses a challenge to this claim. See Onishi and Baillargeon (2005), Surian, Caldi and Sperber (2007), Buttelmann, Carpenter and Tomasello (2009), and Rubio-Fernández and Geurts (2015).

[34]Content type may vary with illocution type; for instance, a set of propositions for queries, and a property for commands. Though there are alternative ways of modeling such contents, none are suited to model sub-sentential meanings. For more discussion see Roberts (2018), and Portner (2004).

Referring with:

In uttering *x*, S referred to *o* with *e*, relative to its *i*th occurrence in *x*, iff for some audience A and relation R, S intended A to recognize that R(*e*, *x*, *i*, *o*) and, at least partly on the basis of this, that S referred to *o* in uttering *x* (Neale, 2017, p. 284)

where reference is defined as follows:

Speaker reference:

In *f*-ing, S referred to *o* iff what S meant by *f*-ing is an *o*-dependent proposition (a singular proposition that has *o* as a constituent).

Though this proposal does not suffer from the circularity that worried Grice and Schiffer, it may place unreasonable demands on speakers' intentions. Neale rightly points out that language users can differentiate between uses of a single expression in a sentence; however, it is less plausible that they track their numerical orderings relative to each sentence uttered. Moreover, there remains the problem of accounting for non-referring expressions; a uniform strategy would be preferable if one were available.

A second approach, taken by Lewis (1992) and Loar (1981), appeals to compositional grammar. This strategy has a top-down and a bottom-up component; illocutionary action determines meanings for sentences in use, while grammar determines meanings for words and unusably long or complex sentences.[35] The idea is that compositional rules determine a bijection from the meaning and structure of complex expressions to the meanings of their parts; this function takes us from sentence meanings to word meanings, then back up to more complex sentence meanings.[36] The question is: What determines the grammar? Ideally, illocutionary action could do this job, so that, as Lewis (1992) suggests:

> Use determines some meanings, those meanings determine the rules, and the rules determine the rest of the meanings. Thus, use determines meaning, in part directly and in part indirectly, for the entire language (Lewis 1992, p. 109).

But the problem, as Loar points out, is that "while a grammar can fit usage, it cannot be determined by it" (Loar, 1981, p. 259). Since illocutionary action underdetermines grammar, traditional theorists must find something else to fill this role—but unless it is grounded in the mental states of language users, they abandon the overarching reductive project. Loar (1976) suggests appealing to the grammar that is psychologically realized in language users. However, it is an open empirical question whether and to what degree users of a language share a psychological representation of its grammatical rules, for which pretheoretical intuitions do not demand a particular answer; it seems as though people could share a language even if they internalized grammatical rules differently. Moreover, as Schiffer points out, one need not internalize any set of grammatical rules whatsoever in order to communicate using a shared language; creatures with a greater cognitive capacity than ourselves could conceivably learn a language like English through rote memorization of its expressions, which they represent as atomic.[37] Thus, even if it turns out that members of a shared language do in fact internalized a shared set of grammatical rules, this fact will be contingent. In this case, the appeal to

[35]I address the problem of meaning without use in Keiser (forthcoming).

[36]For deeper discussion of compositionality and natural language, see Szabó (2000, 2008, 2010, 2019), and Szabó and Thomason (2018, Ch. 2).

[37]See Schiffer (2017, p. 27). Schiffer's example involved a finite fragment of a language; however, if supertasks are achievable, it could be tailored to infinite languages. For those doubting the possibility of supertasks, we can instead imagine creatures born with innate knowledge of an infinite list of expressions.

shared grammar will have given us an answer to a question about causal determinacy, but not metaphysical determinacy. If our metasemantics is to be modally robust, this strategy will not do.

Remaining options include giving up on subsentential meanings altogether, or using something extrinsic to actions and mental states to select the grammar, thus abandoning the Gricean project.[38] Let me say a bit about the first option. Given a commitment to the traditional picture of language as information exchange described in the previous section, this approach is not obviously a non-starter. If its function is to enable users to elicit propositional attitudes, then perhaps a public language needs to allow its users to converge on sentence meaning and no more; variation at the level of grammar or reference would not impede communication if it did not show up downstream. Thus, one might be tempted to take Lewis' approach and limit the domain of public languages to sentences, obviating the need for a metasemantics of subsentential constituents. Loar's appeal to internalized grammar could be invoked at the level of idiolect rather than public language; individual grammars and their assignments to subsentential constituents could vary across speakers of a public language as long as there was a convergence on sentence meaning. This set of sentence/meaning pairs would then be identified as their *shared* language, for it is all that is needed to explain their ability to communicate.[39] While such a picture is not obviously untenable, it involves substantial costs. First, it flies in the face of a strong pretheoretical idea that the words of our shared language do have meaning, which can be found in a dictionary, disputed over the dinner table and in letters to the editor, and used to sow social harmony and discord. Second, this picture provides very little constraints on word meaning even at the idiolectical level; permutation arguments have shown that given a sufficiently gerrymandered grammar, an individual could assign bizarre meanings to subsentential constituents while managing to converge with the rest of the community at the sentence level.[40] Someone could qualify as an English speaker, no matter how crazy their interpretation of individual words, as long as they were mapped to the right sentences. While such criticisms may not be fatal, they provide ample reason to prefer a theory which is able to deliver on the metasemantics for subsentential constituents of public languages. If a competing theory were able to account for this data without significant tradeoffs, it would be at a considerable advantage.

Davis (2003), recognizing the shortcomings of illocution-based metasemantics, offers an alternative to the traditional approach. His proposal privileges lexical meaning, using a bottom-up strategy for determining meanings of complex constructions. According to Davis, the meanings of words and other subsentential constituents are determined by conventions of speaker meaning, which involves expressing ideas rather than eliciting propositional attitudes. Conventions also determine *construction rules*, which impose grammatical structures onto strings of words and map them to idea structures. Thus, conventionally determined word meanings and construction rules jointly determine the meanings of sentences. However, this approach faces a similar problem: It is an open empirical question whether and to what extent users of a language share a set of construction rules—and, if they do—whether and to what extent this fact is non-arbitrary.[41] Our pretheoretical intuitions do not demand a particular answer; it seems possible for agents to share a language without participating in construction conventions.[42] Thus,

[38]There are different readings of Lewis on this issue. Orthodoxy takes him to appeal to extrinsic factors like eligibility and charity to select the grammar. See Williams (2007) for discussion. On another reading, he embraces referential indeterminacy. See Schwarz (2014). See also Weatherson (2013).

[39]Thanks to an anonymous referee for suggesting this approach.

[40]See Zadrozny (1994).

[41]See Szabó (2008, 2019) for criticisms of this bottom-up strategy, and Davis (2003) for replies.

[42]The set of expression/meaning pairs for the entire language underdetermine a set of construction rules. Ease of communication requires that language users have some shared representation of the former, not the latter.

construction conventions together with conventions of meaning for basic expressions fail to deliver necessary and sufficient conditions for language use.

My proposal overcomes these problems by delivering expression meanings using a uniform strategy. This is a consequence of the fact that locutionary content may be any object of attention, ranging from sub-propositional contents to contents of phrases or entire discourses.[43] Conventions of locution determine contents for subsentential expressions in the same manner as sentences: Our conventions of uttering "Elizabeth Warren" to direct an audience's attention to Elizabeth Warren and "was warned" to direct attention to the property of having been warned determine Elizabeth Warren as the meaning for the former expression and the property of having been warned as the meaning of the latter.[44,45] One might worry about double counting; that with "Elizabeth Warren was warned and yet she persisted" speakers conventionally locute the conjuction as well as each conjunct—in which case this sentence would mean at least three propositions in English. However, we typically do not intend audiences to attend to the thought that Elizabeth Warren was warned on the basis of our uttering this *complete* sentence, but rather on the basis of our uttering a *proper part* of it; namely, "Elizabeth Warren was warned". Though one utterance is part of the other, they are distinct; when we are careful about individuating utterances, double counting is not problematic.

Generally speaking, if it is possible to perform utterances with the intention that an audience attend to an individual, then the account predicts the possibility of direct reference—the further question of which expressions are directly referential is an empirical matter dependent upon facts about speakers' intentions and conventions. For instance, if I am correct in claiming that English speakers conventionally use the name "Elizabeth Warren" to get others to attend to Warren herself rather than, for example, an identifying description, then this expression is directly referential.[46] Thus, I am sympathetic with Gareth Evans, who—in critiquing the causal theory of names—claims that:

> We must allow then that the denotation of a name in the community will depend in a complicated way upon what those who use the term intend to refer to, but we will so understand "intended referent" that typically a necessary (but not sufficient) condition for x's being the intended referent of S's use of a name is that x should be the source of causal origin of the body of information that S has associated with the name (Evans, 1973, p. 198).

On my proposal—and this seemed to be what Evans had in mind, as well—the "complicated" way in which intentions determine the denotation of a name is cashed out in terms of convention.[47] But plausibly, there are typically causal constraints on what kinds of intentions speakers are able to form; thus speakers' intentions are metasemantically relevant insofar as they contribute to a broader convention, and causal chains are relevant insofar as they constrain those intentions.

---

[43]This strategy is in principle available to Davis (2003), as thought need not be propositional on his account. However, he in fact takes a different approach.

[44]There are likely both top-down and bottom-up *causal* explanations for why speakers have the conventions of locution that they do. Compare Szabó (2019).

[45]Meanings of empty names will be whatever content (if any) is conventionally locuted by utterances of them. So, on this picture, the problem of empty names is first and foremost a problem about mental content.

[46]This can be contrasted with definite descriptions—if I uttered "the senior senator from Massachusetts" I would intend for you to attend to Warren, but not *directly* on the basis of my utterance; first I would intend you to attend to the property of being the senior senator from Massachusetts, and on *that* basis think of Warren. Such "referential uses" of definite descriptions qualify as cases of indirect meaning on this account.

[47]See Evans (1973, p. 202).

An exception to the uniformity in meaning determination that I claim for my account are syncategorematic expressions. Speakers presumably do not intend audiences to attend to any particular content in uttering, for example, quantifiers, connectives, and morphemes. As Szabó (2019) notes:

> We would find it hopeless to specify the meaning of the definite article or the copula in isolation. There does not seem to be anything we mean by uttering such expressions alone—what we mean to do with them can only be articulated in connection with our uttering other expressions as well (Szabó, 2019, pp. 26–27).

Continuing a tradition in logical and linguistic theory typified by Bertrand Russell's work on definite descriptions, Szabó posits an explanatory divide in the lexicon between *content* and *function* expressions[48]—where the meanings of the former are determined by speech acts they are used to perform, and the meanings of the latter are determined by their contributions to the meanings of the content expressions in which they occur. I adopt this approach. On my account, content expressions are those whose meanings are determined by conventions of locution; they are expressions like noun phrases, predicates, and sentences, whose meanings can serve as objects of attention. Syncategoremata, in contrast, are function expressions: Their meanings are just those functions which yield the meanings of the content expressions in which they occur, given the structure and meanings of their parts. Thus, conventions of locution determine meanings for the entire language, though indirectly so for syncategoremata. As Szabó points out, the latter are obtained by reverse-engineering the meanings of content expressions in which they occur to find the complex function that gets the right results with respect to its structure and the meanings of its parts.[49] This methodology is familiar from work in logic and formal semantics, which is illustrated in Szabó's example of how the intension of "The king is bald" can be determined from the intensions of its constituents:

$[\![\text{the}]\!] = \lambda w_s \lambda P_{\langle s,\langle e,t\rangle\rangle} \lambda Q_{\langle s,\langle e,t\rangle\rangle} \exists x_e (\forall y_e (P(y, w) \leftrightarrow x = y) \wedge Q(x, w))$
$[\![\text{king}]\!] = \lambda w_s \lambda x_e .\ \text{king}(x, w)$
$[\![\text{is}]\!] = \lambda w_s \lambda P_{\langle s,\langle e,t\rangle\rangle} .\ P(w)$
$[\![\text{bald}]\!] = \lambda w_s \lambda x_e .\ \text{bald}(x, w)$
[...]
$[\![\text{the king}]\!][[\![\text{is bald}]\!]] = \lambda w_s (\exists x_e (\forall y_e (\text{King}[y, w] \leftrightarrow x = y) \wedge \text{bald}(x, w))$.[50]

As Szabó points out, Russell's main insight was to show how the intension of "the" can be captured simply by reverse-engineering to get the right results when combined with a pair of one-place predicates. The same strategy is used for the intension of "is," which is designed to get the right results when combined with a one-place predicate. While this approach is analogous to Lewis's top-down proposal for using illocutionary action to determine word meanings, it does not suffer from the same indeterminacy problems; the content expressions of a language can be reverse-engineered to determine a unique value for its function expressions. Moreover, there is another disanalogy with Lewis's strategy; while considerations of theoretical simplicity deliver the wrong results with respect to contentful word meaning using the Lewisian top-down approach (as Williams (2007)) has

[48]Russell (1905) calls the latter "incomplete."
[49]I am thinking of structure here simply as expression order. To accommodate context sensitivity, a full account will need to treat meanings as functions from contexts to contents. For simplicity, I will ignore context sensitivity here.
[50]Szabó (2019, p. 26). This methodology relies on a classification of expressions into semantic types, recursively defined in terms of the type of entities the content expressions are conventionally used to mean.

shown), this is because there are strong pretheoretical constraints on contentful word meaning which appear to be in conflict with such considerations. The same does not hold for functional word meaning; semantic theories for such expressions are justified purely on the basis of theoretical considerations and their predictions for the meanings of content expressions.

4 | STILL TOO DEMANDING?

Though my metasemantic proposal involves substantial weakenings to the traditional approach, some may worry that it is still too cognitively demanding. For instance, one might protest: But I do not have the intentions that constitute locutionary action every single time I communicate—and certainly not with respect to each expression that I utter! I grant this point. The metasemantic account presented here requires only that such intentions be conventional within a linguistic community—that they form a certain kind of robust regularity. It does *not* require that such intentions characterize every single communicative exchange. Once expressions have acquired their conventionalized intentional properties, we may in certain contexts choose to communicate by exploiting common knowledge of those properties rather than relying on mind-reading. (Though the rampant context sensitivity of natural languages suggests that such contexts may be rather few and far-between.)[51] However, we must explain how a language comes to have its intentional properties to begin with; this is what a Gricean metasemantics aims to do, and it does so by appeal to the role of intentions and intention-recognition. Once a linguistic convention is up and running, there is plenty of room for bootstrapping—but getting there requires a certain level of mind-reading.[52] This is the Gricean insight.

One may also worry that pre-linguistic infants could lack the theory of mind necessary for performing and interpreting locutionary action; learning a language helps them develop this capacity, the worry goes, which appears to render the account circular. A similar concern could be raised with regard to explaining language development in phylogeny; if our nearest ancestors lack the mind-reading skills that undergird public language, this poses a problem for explaining the emergence of linguistic communication.[53] But a growing body of evidence suggests that both non-human animals and pre-verbal infants possess the ability to reason about others' goals and engage in joint attention—the crucial cognitive capacities implicated in locutionary action.[54] Research suggests that these abilities play a central role in early language development in human children as well as primitive forms of communication in non-human animals.[55] Moreover, there is plenty of room for bootstrapping here, as well. It is compatible with this account that language development in ontogeny involves scaffolding through interaction with linguistically competent adults. It is also compatible with a gradualist evolutionary picture according to which a natural signaling system could evolve into a language whose complexity and sophistication developed in tandem with the cognitive capacities of its users.[56]

[51]The literature on context sensitivity is broad, but see Lakoff and Johnson (1980), Travis (1985), Bezuidenhout (2002), Récanati (2004), and Scott-Phillips (2017).

[52]Natural meaning plausibly preceded non-natural meaning in the bootstrapping chain. See Bar-On (2013) and Sterelny (2017) for discussion. This is compatible with the thesis that conventions of non-natural meaning ground linguistic meaning.

[53]See Bar-On (2013) and Moore (2017a, 2017b) for discussion.

[54]See Onishi and Baillargeon (2005), Surian et al. (2007), Buttelmann et al. (2009), and Rubio-Fernández and Geurts (2015). See Moore (2017a) for discussion.

[55]Tomasello and Farrar (1986).

[56]See Bar-On (2013), Moore (2017a, 2017b), Sterelny (2017), and Planer (2017).

5 | CONCLUSION

I have argued that a metasemantics in line with the Gricean program of reducing linguistic facts to facts about actions and mental states can be made viable by rejecting the idealization of language as cooperative information exchange. This allows us to move away from an illocution-based metasemantics and toward a more liberal locution-based theory. I have demonstrated that this move dissolves problems faced by traditional models with respect to the metasemantics of subsentential constituents. Though there is more work to be done in developing a full, reductive theory of communication, the metasemantic story forms its core—so if a Gricean metasemantics can be shown to be viable, it will be a substantial victory for this program.

ACKNOWLEDGEMENTS

I am grateful to Zoltan Szabó, Jason Stanley, and Elisabeth Camp, as well as two anonymous referees for this journal for extensive and invaluable feedback, and to audiences at the Australian National University and the Speech Acts Engineering Conference at the University of Oslo for helpful discussion.

ORCID

Jessica Keiser https://orcid.org/0000-0002-5193-8336

REFERENCES

Allport, A. (1987). Selection for action: Some behavioural and neurophysiological considerations of attention and action. In A. Sanders & H. Heuer (Eds.), *Perspectives on perception and action* (pp. 395–419). Hillsdale, NJ: Lawrence Erlbaum Associates.

Adler, J. E. (2002). *Belief's own ethics*. Cambridge, MA: MIT Press.

Asher, N. & Lascarides, A. (2013). Strategic conversation. *Semantics and Pragmatics*, *6*(2), 1–62.

Austin, J. L. (1962). *How to do things with words*. Oxford: Clarendon Press.

Avramides, A. (1989). *Meaning and mind: An examination of a Gricean account of language*. Cambridge, MA: MIT Press.

Bach, K. (2011). Grice. In B. Lee (Ed.), *Philosophy of language: The key thinkers* (pp. 179–198). London: Continuum.

Bach, K. & Harnish, R. (1979). *Linguistic communication and speech acts*. Cambridge, MA: MIT Press.

Bar-On, D. (2013). Origins of communication: Must we "go Gricean?". *Mind & Language*, *28*(3), 342–375.

Bezuidenhout, A. (2002). Truth-conditional pragmatics. *Philosophical Perspectives*, *16*, 105–134.

Bommarito, N. (2013). Modesty as a virtue of attention. *The Philosophical Review*, *122*(1), 93–117.

Bradley, F. H. (1902). On active attention. *Mind*, *11*(41), 1–30.

Brehany, R. (2006). Communication and folk psychology. *Mind and Language*, *21*(1), 74–107.

Broadbent, D. E. (1958). *Perception and communication*. Oxford: Pergamon Press.

Buttelmann, D., Carpenter, M. & Tomasello, M. (2009). Eighteen-month-old infants show false belief understanding in an active helping paradigm. *Cognition*, *112*(2), 337–342.

Camp, E. (2018). Insinuation, common ground, and the conversational record. In D. Harris, D. Fogal & M. Moss (Eds.), *New work on speech acts* (pp. 40–66). Oxford: Oxford University Press.

Campbell, J. (2002). *Reference and consciousness*. Oxford: Oxford University Press.

Chalmers, D. J. (2004). The representational character of experience. In B. Leiter (Ed.), *The future for philosophy* (pp. 153–158). Oxford and New York, NY: Oxford University Press.

Davis, W. (2003). *Meaning, expression, and thought*. Cambridge: Cambridge University Press.

DeRose, K. (2002). Assertion, knowledge and context. *The Philosophical Review*, *111*(2), 167–203.

Descartes, R. (1985). Replies to objections. In J. Cottingham, R. Stoothoff, D. Murdoch & A. Kenny (Eds.), *The philosophical writings of Descartes (3 volumes)*. Cambridge: Cambridge University Press.

Dickie, I. (2011). Visual attention fixes demonstrative reference by eliminating referential luck. In C. Mole, D. Smithies & W. Wu (Eds.), *Attention: Philosophical and psychological essays* (pp. 323–341). Oxford: Oxford University Press.

Engel, P. (2008). In what sense is knowledge the norm of assertion? *Grazer Philosophische Studien*, *77*(1), 45–59.

Evans, G. (1973). The causal theory of names. *Aristotelian Society Supplementary Volume*, *47*(1), 187–208.

Greonendijk, J. & Stokhof, M. (1991). Dynamic predicate logic. *Linguistics and Philosophy*, *14*(1), 39–100.

Grice, H. P. (1989). *Studies in the way of words*. Cambridge, MA: Harvard University Press.

Harman, G. (1974). Meaning. *The Journal of Philosophy*, *71*(7), 224–229.

Hawthorne, J. (2004). *Knowledge and lotteries*. Oxford: Oxford University Press.

Heim, I. (1983). File change semantics and the familiarity theory of definiteness. In Bäuerle R., Schwarze C. & von Stechow A. (eds.), *Meaning, use, and interpretation of language*, (pp. 164–190). Berlin: de Gruyter.

Horn, L. (2009). WJ-40: Implicature, truth, and meaning. *International Review of Pragmatics*, *1*(1), 3–34.

Hornsby, J. (1994). Illocution and its significance. In S. L. Tsohatzidis (Ed.), *Foundations of speech act theory: Philosophical and linguistic perspectives* (pp. 187–207). New York, NY: Routledge.

Hornsby, J. & Langton, R. (1998). Free speech and illocution. *Legal Theory*, *4*(1), 21–37.

Huang, Y. (Ed.) (2016). *The Oxford handbook of pragmatics*. Oxford: Oxford University Press.

James, W. (1890). *The principles of psychology*. New York, NY: Dover.

Kamp, H., Groenendijk, J., Janssen, T. & Stokhof, M. (1981). A theory of truth and semantic representation. *Formal methods in the Study of Language*, (pp. 277–322). Amsterdam: Mathematisch Centrum.

Kaplan, D. (1990). Words. *Aristotelian Society Supplementary Volume*, *64*(1), 93–119.

Kaplan, D. (2011). Words on words. *Journal of Philosophy*, *108*(9), 504–529.

Keiser, J. (forthcoming). *On meaning without use*. *Journal of Philosophy*.

Lakoff, G. & Johnson, M. (1980). Metaphors we live by. *Journal of Aesthetics and Art Criticism*, *40*(2), 208–210.

Levinson, S. (2000). *Presumptive meanings, the theory of generalized conversational implicature*. Cambridge, MA: MIT Press.

Lewis, D. (1969). *Convention: A philosophical study*. Boston, MA: Harvard University Press.

Lewis, D. (1975). Languages and language. In K. Gunderson (Ed.), *Minnesota studies in the philosophy of science* (pp. 3–35). Minneapolis, MN: University of Minnesota Press.

Lewis, D. (1992). Meaning without use: reply to Hawthorne. *Australasian Journal of Philosophy*, *70*(1), 106–110.

Loar, B. (1976). Two theories of meaning. In G. Evans & J. McDowell (Eds.), *Truth and meaning* (pp. 138–161). Oxford: Oxford University Press.

Loar, B. (1981). *Mind and meaning*. Cambridge: Cambridge University Press.

Locke, J. (1979). In P. Nidditch (Ed.), *An essay concerning human understanding*. Oxford: Oxford University Press.

Maitra, I. (2009). Silencing speech. *Canadian Journal of Philosophy*, *39*(2), 309–338.

Moore, R. (2017a). Social cognition, stag hunts, and the evolution of language. *Biology and Philosophy*, *32*(6), 797–818.

Moore, R. (2017b). Gricean communication and cognitive development. *Philosophical Quarterly*, *67*(267), 303–326.

Neale, S. (1992). Paul Grice and the philosophy of language. *Linguistics and Philosophy*, *15*(5), 509–559.

Neale, S. (2017). Silent reference. In G. Ostertag (Ed.), *Meanings and other things: Essays in honor of Stephen Schiffer* (pp. 229–344). Oxford: Oxford University Press.

Onishi, K. H. & Baillargeon, R. (2005). Do 15-month-old infants understand false beliefs? *Science*, *308*(5719), 255–258.

Petrus, K. (Ed.) (2010). *Meaning and analysis: New essays on Grice*. Basingstoke: Palgrave Macmillan.

Planer, R. (2017). Protolanguage might have evolved before ostensive communication. *Biological Theory*, *12*(2), 72–84.

Portner, P. (2004). The semantics of imperatives within a theory of clause types. In K. Watanabe & R. Young (Eds.), *Proceedings of SALT 14*. Ithaca, NY: CLC.

Prinz, J. (2011). Visual attention fixes demonstrative reference by eliminating referential luck. In C. Mole, D. Smithies & W. Wu (Eds.), *Attention: Philosophical and psychological essays* (pp. 174–204). Oxford: Oxford University Press.

Récanati, F. (2004). *Literal meaning*. Cambridge: Cambridge University Press.

Reynolds, S. (2002). Testimony, knowledge, and epistemic goals. *Philosophical Studies*, *110*(2), 139–161.
Roberts, C. (2012). Information Structure in Discourse: Towards an Integrated Formal Theory of Pragmatics. *Semantics and Pragmatics*, *5*(6), 1–69.
Roberts, C. (2018). Speech acts in discourse context. In D. Harris, D. Fogal & M. Moss (Eds.), *New work on speech acts* (pp. 317–359). Oxford: Oxford University Press.
Rubio-Fernández, P. & Geurts, B. (2015). Don't mention the marble! The role of attentional processes in false-belief tasks. *Review of Philosophy and Psychology*, *7*(4), 835–850.
Russell, B. (1905). On denoting. *Mind*, *14*(56), 479–493.
Russell, B. (1969). Theory of knowledge. In E. Eames (Ed.), *Theory of knowledge*. Oxford: Routledge.
Saul, J. (2002). What is said and psychological reality: Grice's project and relevance theorists' criticisms. *Linguistics and Philosophy*, *25*(3), 347–372.
Searle, J. (1993). Metaphor. In A. Ortony (Ed.), *Metaphor and thought* (pp. 83–111). Cambridge: Cambridge University Press.
Schaffer, J. (2008). Knowledge in the image of assertion. *Philosophical Issues*, *18*(1), 1–19.
Scott-Phillips, T. (2017). Pragmatics and the aims of language evolution. *Psychonomic Bulletin & Review*, *24*(1), 186–189.
Schiffer, S. (1972). *Meaning*. Oxford: Clarendon Press.
Schiffer, S. (1982). Intention-based semantics. *Notre Dame Journal of Formal Logic*, *23*(2), 119–156.
Schiffer, S. (1987). *Remnants of meaning*. Cambridge, MA: MIT Press.
Schiffer, S. (2017). Intention and convention in the theory of meaning. In B. Hale, C. Wright & A. Miller (Eds.), *A companion to the philosophy of language*. West Sussex: Wiley-Blackwell.
Schwager, M. (2005). Exhaustive imperatives. In P. Dekker & M. Franke (Eds.), *Proceedings of the 15th Amsterdam colloquium*. Amsterdam: ILLC.
Schwarz, W. (2014). Against magnetism. *Australasian Journal of Philosophy*, *92*(1), 17–36.
Smithies, D. (2011). Attention is rational access consciousness. In C. Mole, D. Smithies & W. Wu (Eds.), *Attention: Philosophical and psychological essays* (pp. 247–273). Oxford: Oxford University Press.
Stalnaker, R. (1970a). Assertion. *Syntax and Semantics*, *9*, 315–332.
Stalnaker, R. (1970b). Pragmatics. *Synthese*, *22*(1/2), 272–289.
Stalnaker, R. (1973). Presuppositions. *The Journal of Philosophical Logic*, *2*(4), 447–457.
Stalnaker, R. (1974). Pragmatic presuppositions. In M. Munitz & P. Unger (Eds.), *Semantics and philosophy* (pp. 197–214). New York, NY: New York University Press.
Stalnaker, R. (1978). Assertion. *Syntax and Semantics*, *9*, 315–332.
Stalnaker, R. (2014). *Context*. Oxford: Oxford University Press.
Stanley, J. (2005). *Knowledge and practical interests*. Oxford: Oxford University Press.
Sterelny, K. (2017). From code to speaker meaning. *Biology and Philosophy*, *32*(6), 819–838.
Surian, L., Caldi, S. & Sperber, D. (2007). Attribution of beliefs by 13-month-old infants. *Psychological Science*, *18*(7), 580–586.
Szabó, Z. (2000). *Problems of compositionality*. New York, NY: Garland.
Szabó, Z. (2008). Structure and conventions. *Philosophical Studies*, *137*(3), 399–408.
Szabó, Z. (2010). The determination of content. *Philosophical Studies*, *148*(2), 253–272.
Szabó, Z. (2019). Semantic explanations. In E. Lepore & D. Sosa (Eds.), *The Oxford studies in philosophy of language* (pp. 240–276). Oxford: Oxford University Press.
Szabó, Z. & Thomason, R. (2018). *Philosophy of language*. Cambridge: Cambridge University Press.
von Stechow, A. (1991). Focusing and backgrounding operators. In A. Werner (Ed.), *Discourse particles: Descriptive and theoretical investigations on the logical, syntactic and pragmatic properties of discourse particles in German (Pragmatics & beyond: New series, 12)* (pp. 37–84). Amsterdam: John Benjamins Publishing Company.
Tomasello, M. & Farrar, M. (1986). Joint attention and early language. *Child Development*, *57*(6), 1454–1463.
Tomasello, M. (2006). Why don't apes point? In N. Enfield & S. Levinson (Eds.), *Roots of human sociality: Culture, cognition and interaction* (pp. 506–524). Oxford: Berg.
Turri, J. (2010). Epistemic invariantism and speech act contextualism. *The Philosophical Review*, *119*(1), 77–95.
Travis, C. (1985). On what is strictly speaking true. *Canadian Journal of Philosophy*, *15*(2), 187–229.
Weatherson, B. (2013). The role of naturalness in Lewis's theory of meaning. *Journal for the History of Analytical Philosophy*, *1*(10), 1–19.

Weil, S. (1986). In S. Miles (Ed.), *Simone Weil: An anthology*. New York, NY: Grove Press.
Weiner, M. (2005). Must we know what we say? *The Philosophical Review*, *114*(2), 227–251.
Williams, J. R. G. (2007). Eligibility and inscrutability. *Philosophical Review*, *116*(3), 361–399.
Wu, W. (2011). Attention as selection for action. In C. Mole, D. Smithies & W. Wu (Eds.), *Attention: Philosophical and psychological essays* (pp. 97–116). Oxford: Oxford University Press.
Zadrozny, W. (1994). From compositional to systematic semantics. *Linguistics and Philosophy*, *17*(4), 329–342.

How to cite this article: Keiser J. Language without information exchange. *Mind & Language*. 2020;1–16. https://doi.org/10.1111/mila.12303